

1        1. A method of treating a wart in a subject, the method comprising  
2           identifying a subject having or suspected of having a wart; and  
3           administering to the subject a composition comprising a fusion protein comprising  
4           (1) a heat shock protein (hsp) or an immunostimulatory fragment thereof, and (2) a protein of  
5           a human papilloma virus (HPV), or an antigenic fragment thereof, wherein the composition  
6           is administered in an amount sufficient to treat the wart.

*Sub. B*      1        2. The method of claim 1, wherein the hsp is a mycobacterial hsp.

1        3. The method of claim 2, wherein the mycobacterial hsp is a *Mycobacterium bovis* hsp.

*Sub. B*      1        4. ~~The method of claim 3, wherein the hsp is *Mycobacterium bovis* Hsp65.~~

1        5. The method of claim 1, wherein the hsp is a member of the Hsp60 or Hsp70  
2           family of proteins.

1        6. The method of claim 1, wherein the HPV is a type 16 HPV.

1        7. ~~The method of claim 1, wherein the protein of the HPV is an E7 protein.~~

1        8. The method of claim 1, wherein the composition contains about 50 to 5000 µg of  
2           the fusion protein.

1        9. The method of claim 8, wherein the composition contains about 100 to 2000 µg of  
2           the fusion protein.

1        10. The method of claim 1, wherein the composition is administered free of adjuvant.

1        11. The method of claim 1, wherein the subject is a mammal.

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- 1        12. The method of claim 11, wherein the mammal is a human.
- 1        13. The method of claim 1, wherein the fusion protein is administered in an amount  
2 sufficient to reduce the size of the wart.
- 1        14. A method of treating, in a subject, a disease or condition associated with a human  
2 papilloma virus (HPV), the method comprising  
3            administering to the subject a composition comprising a fusion protein comprising  
4            (1) an hsp, or an immunostimulatory fragment thereof, and (2) a protein of an HPV, or an  
5 antigenic fragment thereof, wherein the subject is infected with an HPV type that is different  
6 from the HPV type administered to the subject, the composition being administered in an  
7 amount sufficient to treat the disease or condition.
- 1        15. The method of claim 14, wherein the hsp is a mycobacterial hsp.
- 1        16. The method of claim 15, wherein the mycobacterial hsp is a *Mycobacterium*  
2 *bovis* hsp.
- 1        17. The method of claim 16, wherein the hsp is *Mycobacterium bovis* Hsp65.
- 1        18. The method of claim 14, wherein the hsp is a member of the Hsp60 or Hsp70  
2 family of proteins.
- 1        19. The method of claim 14, wherein the HPV type administered to the subject is  
2 type 16.
- 1        20. The method of claim 19, wherein the subject has a disease or condition  
2 associated with an HPV of type 5, 6, 11, 18, 31, 33, 35, 45, 54, 60, or 70.
- 1        21. The method of claim 20, wherein the subject has a disease or condition  
2 associated with an HPV of type 6, 11, 33, 45, or 70.

- 1        22. The method of claim 21, wherein the subject has a disease or condition  
2        associated with an HPV of type 6 or 11.
- 1        23. The method of claim 14, wherein the protein of the HPV is an E7 protein.
- 1        24. The method of claim 14, wherein the composition contains about 50 to 5000 µg  
2        of the fusion protein.
- 1        25. The method of claim 24, wherein the composition contains about 100 to 2000 µg  
2        of the fusion protein.
- 1        26. The method of claim 14, wherein the composition is free of adjuvant.
- 1        27. The method of claim 14, wherein the subject is a mammal.
- 1        28. The method of claim 27, wherein the mammal is a human.
- 1        29. The method of claim 14, wherein the subject is not identified as being infected  
2        with the type of HPV that is administered prior to administration of the composition.
- 1        30. A method of treating a wart in a subject, the method comprising  
2        identifying a subject having, or suspected of having, a wart;  
3        administering to the subject a nucleic acid encoding a fusion polypeptide comprising  
4        (1) an hsp, or an immunostimulatory fragment thereof, and (2) a protein of an HPV or an  
5        antigenic fragment thereof; and  
6        expressing the fusion polypeptide in the subject in an amount sufficient to treat the  
7        wart.
- 1        31. The method of claim 30, wherein the nucleic acid is contained within a viral  
2        vector.

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1        32. A method of treating, in a subject, a disease or condition associated with an HPV  
2 infection, the method comprising:

3            administering to the subject a nucleic acid encoding a fusion protein comprising  
4 (1) an hsp, or an immunostimulatory fragment thereof, and (2) a protein of an HPV, wherein  
5 the subject is infected with an HPV type that is different from the HPV type administered to  
6 the subject; and

7            expressing the fusion protein in the subject in an amount sufficient to treat the disease  
8 or condition.

1        33. The method of claim 32, wherein the nucleic acid is contained within a viral  
2 vector.

1        34. The method of claim 14, wherein the disease or condition is anogenital warts,  
2 plantars warts, cervical cancer, cervical dysplasia, anal cancer, anal dysplasia, or recurrent  
3 respiratory papillomatosis.

1        35. The method of claim 32, wherein the disease or condition is anogenital warts,  
2 plantars warts, cervical cancer, cervical dysplasia, anal cancer, anal dysplasia, or recurrent  
3 respiratory papillomatosis.

*add p37*